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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CIRIC, LJILJANA V

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/044,030

Applicant(s)

UEDA ET AL.

Examiner

Ljiljana (Lil) V. Ciric

LVC

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005 and 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13, 14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13, 14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on November 30, 2005 and on December 22, 2005 have been entered.
2. Claims 13, 14, and 16 remain in the application.

Response to Arguments

3. Applicant's arguments filed on November 30, 2005 have been fully considered but they are not persuasive.

In response to applicant's repeated argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the heat generated by heat generating elements being effectively conveyed to a remote plate via the heat receiving plate, the heat pipes, the fins, and the duct; the heat pipe of the instant invention being able to effectively cool a semiconductor element having a very densely designed circuit without affecting any elements located around the semiconductor element;) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's repeated arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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Applicant's arguments thus do not comply with 37 CFR 1.111(c) because they do not clearly point out the *patentable* novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicant's arguments thus also fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims *patentably* distinguishes them from the references.

Claim Objections

4. Claims 13, 14, and 16 are objected to because of the following informalities: there is a semi-colon (;) instead of a period (.) following each of the aforementioned claim numbers in the claims listing. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 13, 14, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear to what "other elements" the limitation "without affecting other elements surrounding said semiconductor element" at the end of base claim 13 refers. Does the limitation "other elements" refer to other heat generating elements (i.e., additional semiconductors) or to other structural elements (i.e., the ventilation duct, etc.)? Absent additional clarification, this limitation thus renders indefinite the metes and bounds of protection sought by claim 13 and all claims depending therefrom.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (3-96258) in view of Yamakage (63-254754), both previously of record.

Ishida et al. [see Figures 1 through 7] discloses all of the claimed features of the invention, including a heat receiving plate or base plate 1 arranged at least partially outside ventilation duct 5, but does not necessarily disclose the distance between the heat receiving plate or base plate 1 and one of the parallel heat radiating plates or fins 3 located adjacent the heat receiving plate or base plate 1 as being substantially greater than the distance between two adjacent parallel heat radiating plates as recited in base claim 13 of the instant application.

Nevertheless, it is known in the art and taught by Yamakage [see especially Figure 6] to have a significantly or noticeably larger distance between a heat receiving plate 2 and the closest fin 6 of a heat pipe 9 having at least one end in the heat receiving plate 2 where the finned end and fins 6 of the heat pipe 9 are disposed in the duct 7 and the other end of the heat pipe 9 is disposed in the heat receiving plate 2 in

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order to optimize/maximize the heat transfer rate away from an electronic/semiconductor device 1 as taught by Yamakage. It is also taught by Yamakage to have, in a heat pipe cooler arrangement including a ventilation duct 7 and a plurality of heat pipes 4 [see Figures 5 and 6], the heat receiving plate or block 2 disposed entirely outside the ventilation duct 7 in order to more readily dissipate heat to ambient while minimizing thermal stresses to the duct.

Thus it would have been obvious to one skilled in the art at the time of invention to modify the heat pipe cooler of Ishida et al. by increasing the distance between the heat receiving plate and the closest heat pipe fin as taught by Yamakage in order to optimize the heat transfer rate away from an electronic device attached to the base or heat receiving plate. It would also have been obvious to one skilled in the art at the time of invention to modify the heat pipe cooler of Ishida et al. by placing the entire heat receiving plate 1 thereof outside of the duct 5 as also taught by Yamakage in order to, for example, minimize thermal stresses to the duct due to temperature fluctuations in the heat receiving plate.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner can normally be reached on Mondays through Fridays from 10:00 a.m. to 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached at 571-272-4930.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ljiljana (Lil) V. Ciric
Primary Examiner
Art Unit 3753